Amendments to the Claims.

The following listing of claims replaces all prior versions and listings of claims.

Listing of Claims.

1. (Currently amended) An apparatus for processing an optical beam, comprising:

at least one variable optical element to dynamically alter the polarization state of a polarized optical beam to form a polarization-altered optical beam, wherein said polarization-altered optical beam includes elliptical polarization;

at least one wave plate to process said polarized optical beam, each wave plate having a selected retardation, order of retardation, and orientation; and

a polarization analyzer operative in conjunction with said at least one variable optical element and said at least one wave plate to alter the transmitted amplitude of said polarization-altered optical beam as a function of wavelength in accordance with a selected profile, and thereby produce an output optical beam with transmitted amplitude adjusted as a function of wavelength.

2. (Original) The apparatus of claim 1 configured to alter said transmitted amplitude of said polarization-altered optical beam in a substantially linear manner on a logarithmic scale.

3. (Canceled).

4. (Original) The apparatus of claim 1 wherein said at least one wave plate is positioned before said at least one variable optical element.

5. (Original) The apparatus of claim 1 wherein said variable optical element dynamically alters the polarization state of said polarized optical beam so as to smoothly and continuously

alter the slope profile of said polarized optical beam between different states selected from a positive slope profile state, a substantially flat profile state, and a negative slope profile state.

6. (Original) The apparatus of claim 1 wherein said variable optical element is a liquid crystal.

7. (Original) The apparatus of claim 1 wherein said variable optical element is an electro-optic birefringent element.

8. (Original) The apparatus of claim 1 wherein said variable optical element is an acousto-optic variable element.

9. (Original) The apparatus of claim 1 wherein said variable optical element is a birefringent crystal wedge.

10. (Original) The apparatus of claim 1 wherein said wave plate has multiple orders.

11. (Original) The apparatus of claim 1 further comprising a set of wave plates of predetermined orders and orientations.

12. (Original) The apparatus of claim 1 wherein said wave plate is at an orientation of between approximately 35 and 55 degrees with respect to said polarized optical beam.

13. (Original) The apparatus of claim 1 wherein at least one wave plate has an order of retardation greater than one.

14. (Original) The apparatus of claim 1 wherein said polarization analyzer is a birefringent crystal.

15. (Original) The apparatus of claim 1 configured to process a polarized optical beam with wavelengths between approximately 1525 and 1565 nm.

16. (Original) The apparatus of claim 1 configured to process an optical beam with a wavelength of approximately 1540 nm or less.

17. (Original) The apparatus of claim 1 configured to process an optical beam with wavelengths between approximately 1485 and 1520 nm.

18. (Original) The apparatus of claim 1 configured to process an optical beam with wavelengths between approximately 1570 and 1615 nm.

19. (Original) The apparatus of claim 1 configured to process an optical beam with amplitude varying monotonically with wavelength.

20. (Original) The apparatus of claim 1 further comprising a polarizer to process an optical beam to produce said polarized optical beam, said polarized optical beam including orthogonally polarized beams.

21. (Original) The apparatus of claim 20 wherein said polarizer is a birefringent crystal.

22. (Original) The apparatus of claim 20 wherein said polarization analyzer combines said orthogonally polarized beams to produce a recombined beam with an amplitude substantially independent of the polarization of said optical beam.

23. (Original) The apparatus of claim 20 wherein said polarization analyzer combines said orthogonally polarized beams to produce a recombined beam with a dispersion substantially independent of the polarization of said optical beam.

24. (Original) The apparatus of claim 1 in combination with a fiber optic transmission line.

25. (Original) The apparatus of claim 1 in combination with an optical amplifier.

26. (Currently amended) A method of processing an optical beam, comprising:

dynamically altering the polarization state of a polarized optical beam to form a polarization-altered optical beam, wherein said polarization-altered optical beam includes elliptical polarization; and

altering the transmitted amplitude of said polarization-altered optical beam as a function of wavelength in accordance with a selected profile, thereby producing an output optical beam with transmitted amplitude adjusted as a function of wavelength.

27. (Original) The method of claim 26 further comprising modifying said transmitted amplitude of said polarization-altered optical beam in a substantially linear manner on a logarithmic scale.

28. (Canceled).

29. (Original) The method of claim 26 further comprising adjusting said polarization state of said polarized optical beam so as to smoothly and continuously alter the slope profile of said polarized optical beam between different states selected from a positive slope profile state, a substantially flat profile state, and a negative slope profile state.

30. (Original) The method of claim 26 utilized to process an optical beam with wavelengths between approximately 1525 and 1565 nm.

31. (Original) The method of claim 26 utilized to process an optical beam with wavelengths between approximately 1485 and 1520 nm.

32. (Original) The method of claim 26 utilized to process an optical beam with wavelengths between approximately 1570 and 1615 nm.

33. (Original) The method of claim 26 utilized to process an optical beam with a wavelength of approximately 1540 nm or less.

34. (Original) The method of claim 26 to process an optical beam with amplitude varying monotonically with wavelength.

35. (Original) The method of claim 26 further comprising an initial operation of separating an input optical beam into orthogonally polarized beams.

36. (Original) The method of claim 35 wherein altering includes producing a recombined beam with an amplitude substantially independent of the polarization of said input optical beam.

37. (New) A method of processing an optical beam, comprising:

dynamically altering the polarization state of a polarized optical beam to form a polarization-altered optical beam, wherein said polarization-altered optical beam includes elliptical polarization; and

altering the transmitted amplitude of said polarization-altered optical beam as a function of wavelength, thereby producing an output optical beam with transmitted amplitude adjusted as a function of wavelength,

wherein said optical beam is processed with amplitude varying substantially monotonically with wavelength.

38. (New) The method of claim 37 further comprising modifying said transmitted amplitude of said polarization-altered optical beam in a substantially linear manner on a logarithmic scale.

39. (New) The method of claim 37 further comprising modifying said transmitted amplitude of said polarization-altered optical beam in accordance with a selected profile.

40. (New) The method of claim 37 further comprising adjusting said polarization state of said polarized optical beam so as to smoothly and continuously alter the slope profile of said polarized optical beam between different states selected from a positive slope profile state, a substantially flat profile state, and a negative slope profile state.

41. (New) The method of claim 37 further comprising an initial operation of separating an input optical beam into orthogonally polarized beams.

42. (New) The method of claim 41 wherein altering includes producing a recombined beam with an amplitude substantially independent of the polarization of said input optical beam.